MP 3.2 Message Processing Functional Requirements

MP 3.2.1 Message Inbound Processing

Inbound processing consist of receiving message packets from the communications front end, routing of the message for proper processing, validation, parsing, checking for SRI satisfaction, information labeling, and handing off data to an external process/COE module for further processing. A flow chart depicting the association of these processes can be seen in Figure 1.

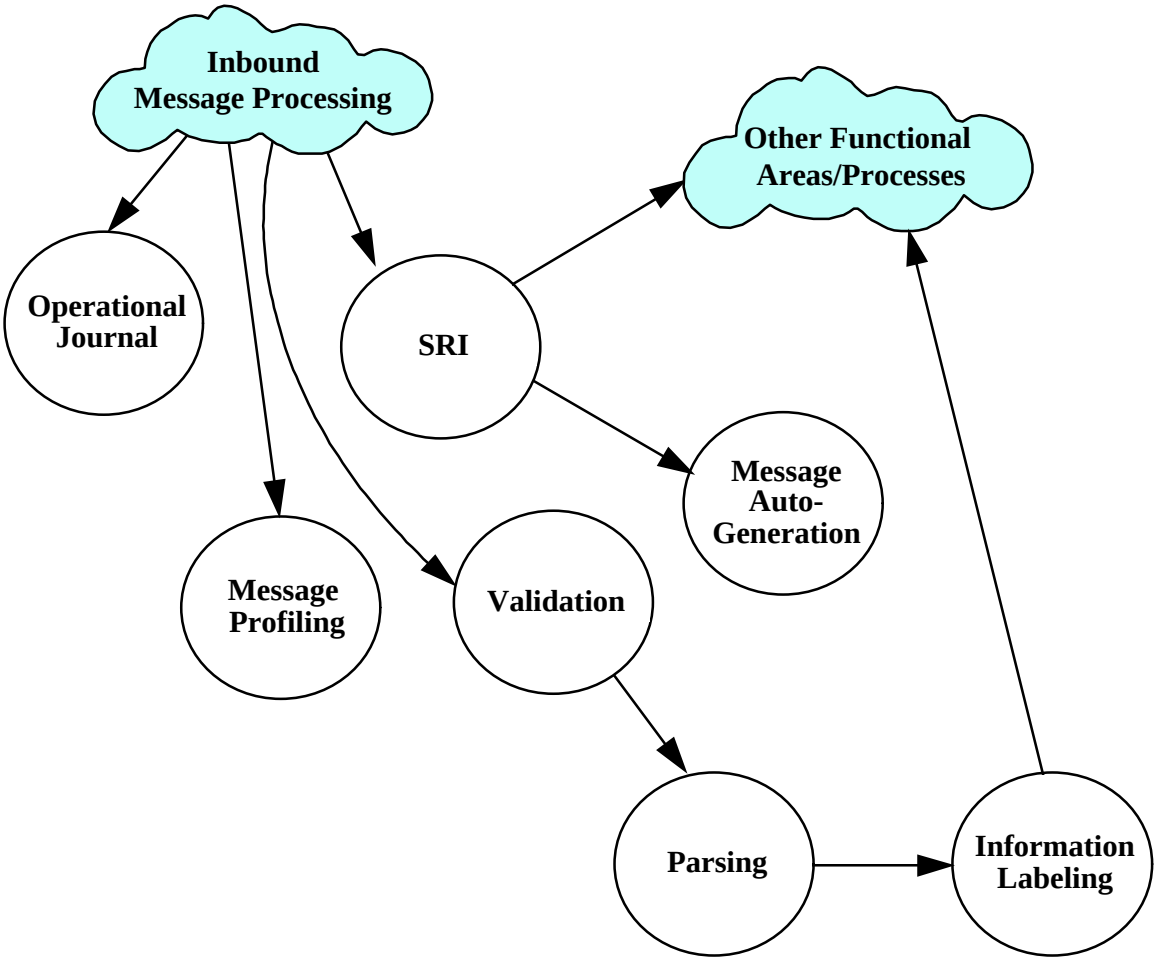

Figure 1. Message Inbound Processing

MP 3.2.1.1 Internal Routing

The message processor shall be capable of accepting data from the communications processing functional area and routing the data to various areas, based on processing requirements. Routing shall be to:

Traceability:
Priority ???

- Operational Journal

Traceability:
Priority ???

- Parser

  Traceability:
  Priority ???

- Profiler

  Traceability:
  Priority ???

- SRI processing

  Traceability:
  Priority ???

- User Interface for error processing

  Traceability:
  Priority ???

To support routing of data to the appropriate module(s) the message processor shall:

Traceability:
Priority ???

3.2.1.1.1 Provide the capability to extract office symbols from received message headers and route the message to the appropriate destination queue.

Traceability:
Priority ???

3.2.1.1.2 Provide the capability to route based on action addressees

Traceability:
Priority ???

3.2.1.1.3 Provide the capability to route based on information addressees

Traceability:
Priority ???

3.2.1.1.4 Provide the capability to route based on Address Information Group (AIG) routers

Traceability:
Priority ???

3.2.1.1.5 Route to automatic message generation or forwarder based upon user defined criteria (SRI) which may be satisfied through:

Traceability:
Priority ???

a. message content

   Traceability:
   Priority ???

b. message type

   Traceability:
   Priority ???

c. message originator

   Traceability:
   Priority ???

d. message classification

   Traceability:
   Priority ???

e. message precedence

Traceability:
Priority ???

3.2.1.1.6 Provide the capability to forward received messages to addresses on a secondary distribution list which shall be user definable and maintainable.

Traceability:
Priority ???

3.2.1.1.7 Support routing of messages from a file or application to:

Traceability:
Priority ???

a. a secondary storage media

Traceability:
Priority ???

b. an output device (i.e.; tape, printer, etc.)

Traceability:
Priority ???

3.2.1.1.8 Provide the capability to deliver received messages to an address contained in the router table (i.e.: an individual, a group (role), a database, or an application).

Traceability:
Priority ???

3.2.1.1.9 Provide the capability to transfer received messages to their destination (individual, role, database, or application) in order of precedence

Traceability:
Priority ???

3.2.1.1.10 Provide the capability to transfer received messages to their destination (individual, role, database, or application) in order of arrival, FIFO

Traceability:
Priority ???

3.2.1.1.11 Provide the capability to transfer received messages to their destination (individual, role, database, or application) in reverse order of arrival Last In First Out (LIFO).

Traceability:
Priority ???

3.2.1.1.12 Provide the capability to route to designated user for interactive processing upon:

Traceability:
Priority ???

a. Message having identified errors

Traceability:
Priority ???

b. Message being identified as an incomplete sectioned message

Traceability:
Priority ???

c. Message being identified as a textual message

Traceability:
Priority ???

d. Message identified for manual processing

Traceability:
Priority ???

MP 3.2.1.2 Message Parser

The message processing module shall provide users and authorized processes the capability to extract data from a message. The message processing module shall:

Traceability:
Priority ???

3.2.1.2.1 Provide the capability to specify the information to be extracted from a message.
Traceability:
Priority ???

3.2.1.2.2 Provide the ability to locally change the configuration for data extraction requirements of users and authorized processes without affecting data extraction requirements of other users or processes.
Traceability:
Priority ???

3.2.1.2.3 Restrict ability to modify extraction requirements to authorized users, only.
Traceability:
Priority ???

3.2.1.2.4 Identify the presence of validation errors in messages when delivering extracted information to users and to authorized processes.
Traceability:
Priority ???

3.2.1.2.5 Not impose arbitrary restrictions on the quantity of data extracted from a message.
Traceability:
Priority ???

3.2.1.2.6 Deliver received messages in whole or part to files, processes, and databases.
Traceability:
Priority ???

3.2.1.2.7 Parse, in addition to those referenced in paragraph 2.1.2 all message standards that can be translated into a format compatible with the USMTF CDBS
Traceability:
Priority ???

3.2.1.2.8 Identify a message as requiring manual processing if any of the following conditions are true:
Traceability:
Priority ???

a. The message contains detected, uncorrectable errors
Traceability:
Priority ???

b. The message is a free text message
Traceability:
Priority ???

c. The message type has been designated for manual processing
Traceability:
Priority ???

3.2.1.2.9 Protect against parsing the same message twice even though the message may be received from the communications module on multiple occasions.
Traceability:
Priority ???

3.2.1.2.10 Be capable of identifying a message as requiring interactive correction.
Traceability:
Priority ???

3.2.1.2.11 Make clearly visible invalid entries when presented to a user for action.
Traceability:
Priority ???

3.2.1.2.12 Provide interactive and/or on-line help data specifying valid entries and/or format.
Traceability:
Priority ???

3.2.1.2.13 Support submission of corrected messages for parsing.
Traceability:
Priority ???

3.2.1.2.14 Check and validate for operational or exercise message.
Traceability:
Priority ???

3.2.1.2.15 Provide the capability to selectively expedite the processing of a message in accordance with it's assigned precedence. Rank order of precedence is:
Traceability:
Priority ???

a. Emergency Command Precedence (ECP)
Traceability:
Priority ???

b. Flash
Traceability:
Priority ???

c. Immediate
Traceability:
Priority ???

d. Priority
Traceability:
Priority ???

e. Routine
Traceability:
Priority ???

3.2.1.2.16 Provide the capability for queuing of messages for parsing by precedence.
Traceability:
Priority ???

3.2.1.2.17 Provide the capability for retrieval of messages by precedence.
Traceability:
Priority ???

3.2.1.2.18 Protect data integrity through use of persistent queuing.
Traceability:
Priority ???

3.2.1.2.19 Protect data integrity through use of cyclic redundancy checking (CRC) or like methodology.
Traceability:
Priority ???

3.2.1.2.20 Provide interface to define data extraction criteria.
Traceability:
Priority ???

3.2.1.2.21 Provide interface to edit data extraction criteria.
Traceability:
Priority ???

3.2.1.2.22 Provide interface to activate a data extraction criteria.
Traceability:
Priority ???

3.2.1.2.23 Provide interface to de-activate a data extraction criteria.
Traceability:
Priority ???

3.2.1.2.24 Route parsing results to addresses which are user definable.
Traceability:
Priority ???

3.2.1.2.25 Access data recipient address(s) in a table definable by the system administrator.
Traceability:
Priority ???

3.2.1.2.26 Access data recipient address(s) in a table maintainable by the system administrator.
Traceability:
Priority ???

MP 3.2.1.3 Information Labeling

For systems operating at the system high mode of operations, the message processor shall support the auto input of an information label at the system high water mark, as required by the following extract from DoD 5200.28-STD which states “System high security mode - The mode of operation in which system hardware/software is only trusted to provide need-to-know protection between users. In this mode, the entire system, to include all components electrically and/or physically connected, must operate with security measures commensurate with the highest classification and sensitivity of the information being processed and/or stored. All system users in this environment must possess clearances and authorizations for all information contained in the system. All system output must be clearly marked with the highest classification and all system caveats, until the information has been reviewed manually by an authorized individual to ensure appropriate classifications and caveats have been affixed.” Records created by the parser shall be annotated with an information label commensurate with the level of classification associated with the parsed message (legal classifications are contained in DIAM 65-19). The message processor shall:

3.2.1.3.1 For system high systems, attach an information label to each exported data record equal to the system high water mark. Messages received which are classified less than the system high water mark will be checked for legality and considered legal if the classification marking is equal to or subordinate to the system high water mark.
Traceability:
Priority ???

3.2.1.3.2 For multiple levels of security (MLS) systems the information label must be equal to or subordinate to the system high water mark of the system. Messages received which are classified less than the

system high water mark will be checked for legality and considered legal if the classification marking is equal to or subordinate to the system high water mark. Records created from messages under this requirement shall be labeled according to the classification marking of the incoming data.

Traceability:
Priority ???

3.2.1.3.3 User modification of security classification (modification of the classification marking must be monitored and reported to system audit trail).

Traceability:
Priority ???

3.2.1.3.4 Legal information labels shall be created based upon hierarchical classifications

Traceability:
Priority ???

3.2.1.3.5 Legal information labels shall be created based upon hierarchical plus non-hierarchical classifications

Traceability:
Priority ???

MP 3.2.1.4 SRI Processing

Standing Request for Information (SRI) processing is the process of monitoring incoming messages to detect if they contain information of interest to a user or process. Definition of desired information is termed a “criteria” and is user definable and maintainable. The SRI process shall:

3.2.1.4.1 Provide the capability to initiate local message-based SRIs.

Traceability:
Priority ???

3.2.1.4.2 Provide the capability to initiate remote message-based SRIs.

Traceability:
Priority ???

3.2.1.4.3 Provide the capability to define the activation conditions for message-based SRIs.

Traceability:
Priority ???

3.2.1.4.4 Provide the capability to terminate all message-based SRIs managed by an application program with a single action.

Traceability:
Priority ???

3.2.1.4.5 Provide the capability for an application to terminate locally message-based SRIs unconditionally.

Traceability:
Priority ???

3.2.1.4.6 Provide the capability for an application to terminate remote message-based SRIs unconditionally.

Traceability:
Priority ???

3.2.1.4.7 Provide the capability to terminate a message-based SRI after one activation.

Traceability:
Priority ???

3.2.1.4.8 Provide the capability to identify all active message-based SRIs (local and remote) to an application.

Traceability:
Priority ???

3.2.1.4.9 Provide the capability to transfer active message-based SRIs to on-line, non-volatile storage during normal W/S termination.

Traceability:
Priority ???

3.2.1.4.10 Provide the capability to restore active message-based SRIs during W/S initialization.

Traceability:
Priority ???

3.2.1.4.11 Provide the capability to monitor incoming messages for the satisfaction of message-based SRI conditions.

Traceability:
Priority ???

3.2.1.4.12 Provide the capability to initiate the required message-based SRI processing

Traceability:
Priority ???

3.2.1.4.13 Provide the capability to notify a local application upon the satisfaction of a message-based SRI.

Traceability:
Priority ???

3.2.1.4.14 Provide the capability to notify a remote application upon the satisfaction of a message-based SRI.

Traceability:
Priority ???

3.2.1.4.15 Provide the capability to route data satisfying a SRI to a specified user or process. Specific users are:

Traceability:
Priority ???

a. Alerts

Traceability:
Priority ???

b. Auto message generation

Traceability:
Priority ???

c. Specified DBMS

Traceability:
Priority ???

d. Specified user

Traceability:
Priority ???

e. Process

Traceability:
Priority ???

MP 3.2.1.5 Message Profiling

Messages entering the message processing module must be processed to identify and/or extract (copy or demarcate) message elements. Elements extracted from messages are necessary for construction of corresponding message summaries which shall provide "two-level" message review capabilities required for distribution, coordination, and retrieval functions used during search and retrieval processes. The message processing module shall:

3.2.1.5.1 Provide the capability to enter message selection profiles for individual users, group of users, or processes.

Traceability:
Priority ???

3.2.1.5.2 Support distribution criteria to include message routing criteria or message content.

Traceability:
Priority ???

3.2.1.5.3 Compare messages and system profiles to determine which accounts should receive a copy of the associated message summaries.

Traceability:
Priority ???

3.2.1.5.4 Compare messages and system profiles to determine which accounts should receive a copy of the associated parsed data.

Traceability:
Priority ???

3.2.1.5.5 Determine from user profiles and message content which organization is assigned Action for the Office of Primary Interest (ACT/PI) for a given message.

Traceability:
Priority ???

3.2.1.5.6 Determine from user profiles and message content which account shall be designated the Action Officer (AO) for the message.

Traceability:
Priority ???

3.2.1.5.7 Provide an optional capability to distribute message summaries of transmitted messages (come-back copies) to any combination of accounts listed in the internal distribution fields (drafter, coordinators, releaser).

Traceability:
Priority ???

3.2.1.5.8 Provide an optional capability to distribute message come-back copies to any combination of accounts listed in the internal distribution fields (drafter, coordinators, releaser).

Traceability:
Priority ???

3.2.1.5.9 Support user re-addressal of received messages for retransmission to external organizations.

Traceability:
Priority ???

3.2.1.5.10 To support generation of a message profile the message processor shall:

Traceability:
Priority ???

a. Extract the following precedence markings (on messages so marked):
   - EMERGENCY COMMAND PRECEDENCE (ECP)

Traceability:
Priority ???

- FLASH

Traceability:
Priority ???

- IMMEDIATE

Traceability:
Priority ???

- PRIORITY

Traceability:
Priority ???

- ROUTINE

Traceability:
Priority ???

b. Process the message to identify and extract the following message elements:
   - Subject/Message ID

Traceability:
Priority ???

   - Date-Time-Group (DTG)

Traceability:
Priority ???

   - Message Addresses (both action and information)

Traceability:
Priority ???

   - Office Symbols (including multiple office symbols in a single address)

Traceability:
Priority ???

   - Message Originator

Traceability:
Priority ???

c. Extract U.S. classification and caveat markings including, but not limited to: TOP SECRET, SECRET, CONFIDENTIAL, UNCLAS EFTO FOUO, UNCLAS EFTO, and UNCLAS.

Traceability:
Priority ???

d. Identify message handling markings for control functions used to enforce user "need-to-know" access within the various classification and caveat levels including, but not limited to: LIMDIS, NOFORN (or NFD), RESDAT, FORMERLY RESDAT (in all formats: FRD, etc.), EYES ONLY (and who for), PERSONAL FOR (and who the message is personal for), SPECAT, SPECAT EXCLUSIVE, and specified, special compartmental caveats as may be modified by the user.

Traceability:
Priority ???

MP 3.2.2 Message Outbound Processing

Outbound processing consist of message generation, data validation, routing, release coordination, and handing off data to an external process/COE module for further processing. A flow chart depicting the association of these processes can be seen in Figure 2.

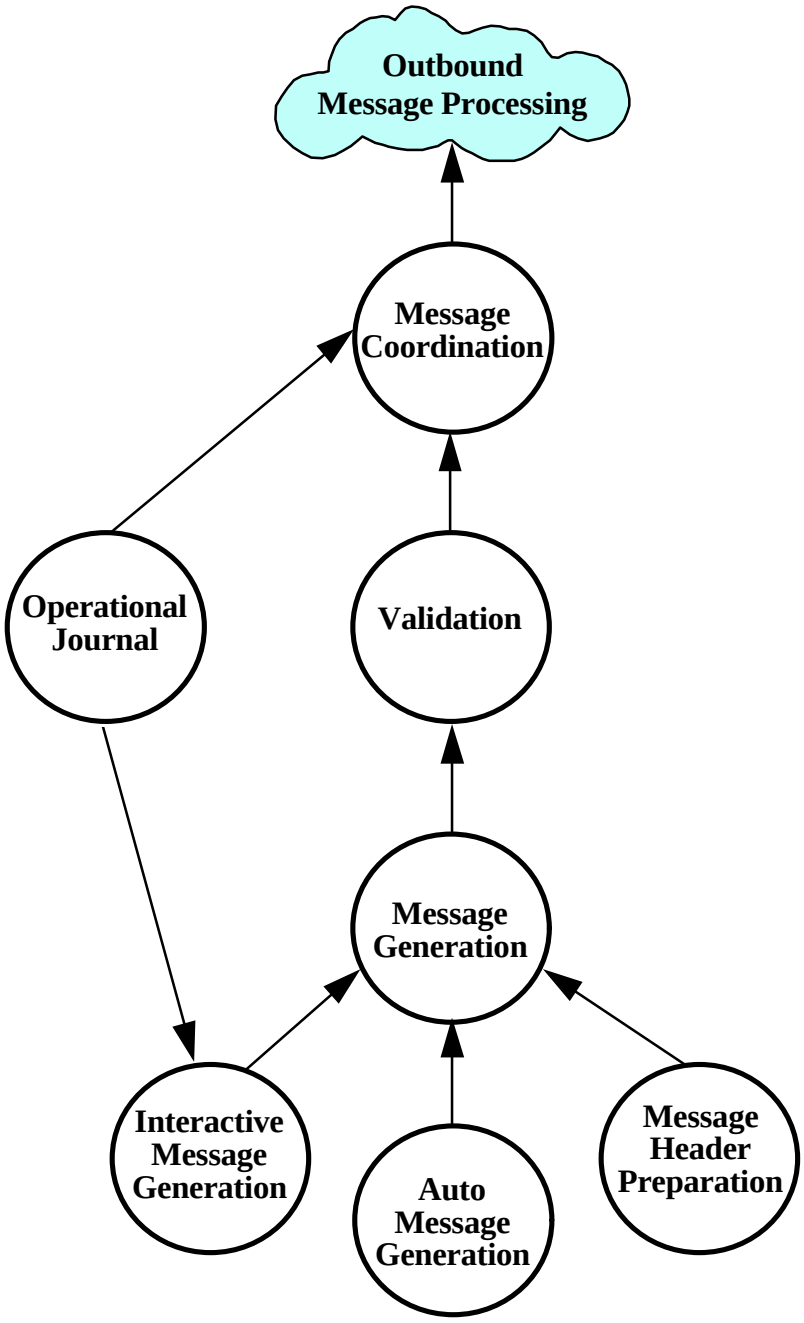

Figure 2. Message Outbound Processing

MP 3.2.2.1 Message Generation

The message processing module must support generation of messages, regardless of the origin of the standard, as long as the message definition provided is in conformance with the USMTF CDBS DB scheme. Message generation is broken into two separate and distinct areas, automatic and interactive, with areas sharing common functionality. Regardless of the method used for message generation, the message processing module shall provide a means to submit messages, to the communications system, by precedence where the highest precedence is processed first. Rank order of precedence is:

a. Emergency Command Precedence (ECP)
b. Flash
c. Immediate
d. Priority
e. Routine

MP 3.2.2.1.1 Message Auto Generation

Automatic message generation may be activated by multiple means, some internal to the message processing module while others are external. An examples of an internal process that may activate automatic message generation would be satisfaction of a SRI where the user has directed that satisfaction of a SRI criteria requires auto generation and output of a message to an external source. An example of an external activator, for automatic message generation, could be satisfaction of a Data Base (DB) SRI where the user has directed the system to create a message based upon specified activity occurring in the DB. In either case, the automatic message generation module requires that certain data be provided, such as format, addressee, message type, and adequate data to populate mandatory fields. The message processor shall be able to automatically generate messages for release based on:

3.2.2.1.1.1 Data routed to auto generation as the result of satisfaction of a SRI
Traceability:
Priority ???

3.2.2.1.1.2 Data routed to auto generation as the result of a query, either at the direction of a process or a user
Traceability:
Priority ???

3.2.2.1.1.3 Data routed to auto generation as the result of user request based on selection of an icon, symbology, and/or feature object from a map display
Traceability:
Priority ???

MP 3.2.2.1.2 Interactive Generation

Interactive message generation relies upon input from a user to complete the message build. The process will be supported by some automated actions for fill of common fields with default information but will rely upon the user to supply data fill to areas which contain user/system “information”. The message processor shall:

3.2.2.1.2.1 Provide an annotated form (template) for interactively constructing each of the message sets specified in MIL STD 6040 and supported service unique standards, as specified in paragraph 3.2.
Traceability:
Priority ???

3.2.2.1.2.2 Provide on-line and interactive help (context sensitive) in preparation of messages as provided by the electronic data representation of the associated message standard, when it exists as part of the message definition contained in the USMTF CDBS or appropriate format.
Traceability:
Priority ???

3.2.2.1.2.3 Support interactive message generation where input of any message field is supported in any combination of the following:
Traceability:
Priority ???

a. User via keyboard entry and/or edit
Traceability:
Priority ???

b. User via cut and paste
Traceability:
Priority ???

c. Query results
Traceability:
Priority ???

d. Validated data entry tables
Traceability:
Priority ???

3.2.2.1.2.4 Provide default values for message fields or sets which are user-definable or delectable.
Traceability:
Priority ???

3.2.2.1.2.5 Provide a capability for forwarding messages for coordination.
Traceability:
Priority ???

3.2.2.1.2.6 Provide the user the capability to edit and reroute or submit a message for release.
Traceability:
Priority ???

3.2.2.1.2.7 Provide the user with message addressing parameters to allow message routing to a specific address
Traceability:
Priority ???

3.2.2.1.2.8 Provide the user with message addressing parameters to allow message routing to multiple addresses
Traceability:
Priority ???

3.2.2.1.2.9 Support interactive message generation where auto filled sets/fields are modifiable by the user.
Traceability:
Priority ???

3.2.2.1.2.10 Support interactive message generation where input is through cut and paste operations and copied and pasted from previous set/field entries in same message.
Traceability:
Priority ???

3.2.2.1.2.11 Support interactive message generation where input is through cut and paste operations and copied and pasted from previous set/field entries in another message.

Traceability:
Priority ???

3.2.2.1.2.12 Support interactive message generation where input is through cut and paste operations and copied and pasted from text in another window

Traceability:
Priority ???

3.2.2.1.2.13 Support interactive message generation allowing the user to retrieve message from a storage area and edit of that message.

Traceability:
Priority ???

MP 3.2.2.1.3 Format Selection

Messages contain communication system specific header data elements used for selection of a protocol necessary for communications between systems. The communications module relies on the message processing module to pass parameters, such as originator, addressee, DTG, classification, etc. to it in order to determine what message format was used in creation of the message and what protocol is required. The JANAP-128 and ACP-126 (modified) message formats are two of the most commonly used header definitions.

The message processor shall be capable of selectively supporting message generation using the formats defined in paragraph 3.3.2.7.

Traceability:
Priority ???

MP 3.2.2.2 Message Coordination and Release

There is more than one way to create a message. A message may get generated based upon a SRI satisfaction where the information which caused satisfaction of the SRI criteria is forwarded for automatic message generation and to the communications module for release or the combined effort of multiple user where the finished product should be reviewed and concurred to by all prior to release. Also, maybe only one individual has been granted the authority to release messages. To facilitate coordination and release requirements the message processing module shall:

3.2.2.2.1 Support serial coordination of messages.

Traceability:
Priority ???

3.2.2.2.2 Support parallel coordination of messages.

Traceability:
Priority ???

3.2.2.2.3 Allow the user to specify distribution of internally coordinated messages either adhoc or via user-defined distribution lists.

Traceability:
Priority ???

3.2.2.2.4 Provide the capability to create a list of message coordination and release personnel.

Traceability:
Priority ???

3.2.2.2.5 Provide the capability to maintain a list of message coordination and release personnel.
Traceability:
Priority ???

3.2.2.2.6 Provide the capability to delete a list of message coordination and release personnel.
Traceability:
Priority ???

3.2.2.2.7 Provide the capability to notify the members on a list of message coordination and release personnel when they have a message awaiting review.
Traceability:
Priority ???

3.2.2.2.8 Allow users to annotate coordination messages with their comments and route those comments back to the drafter of the message.
Traceability:
Priority ???

3.2.2.2.9 Provide the capability for members on the message coordination and release list to edit a message under review.
Traceability:
Priority ???

3.2.2.2.10 Distribute internally generated messages according to a routing list specified by the user.
Traceability:
Priority ???

3.2.2.2.11 Notify users when they have a message awaiting coordination.
Traceability:
Priority ???

3.2.2.2.12 Allow users to view the status of a message during the coordination cycle.
Traceability:
Priority ???

3.2.2.2.13 Allow users to receive notification when a suspense has been missed.
Traceability:
Priority ???

3.2.2.2.14 Authenticate releaser or release processes against a list of authorized message releasers.
Traceability:
Priority ???

3.2.2.2.15 Allow the releaser to reject the message back to the drafter.
Traceability:
Priority ???

MP 3.2.3 Message Processing Support Services

The message processing module is made up of many stand alone and callable smaller modular. These modules can be, and are, used for both inbound and outbound processing. This architecture supports the concept of “sizing” by allowing the using system to select only modules which are necessary to perform functions desired by their user. The following paragraphs, along with Figure 3, describe support services.

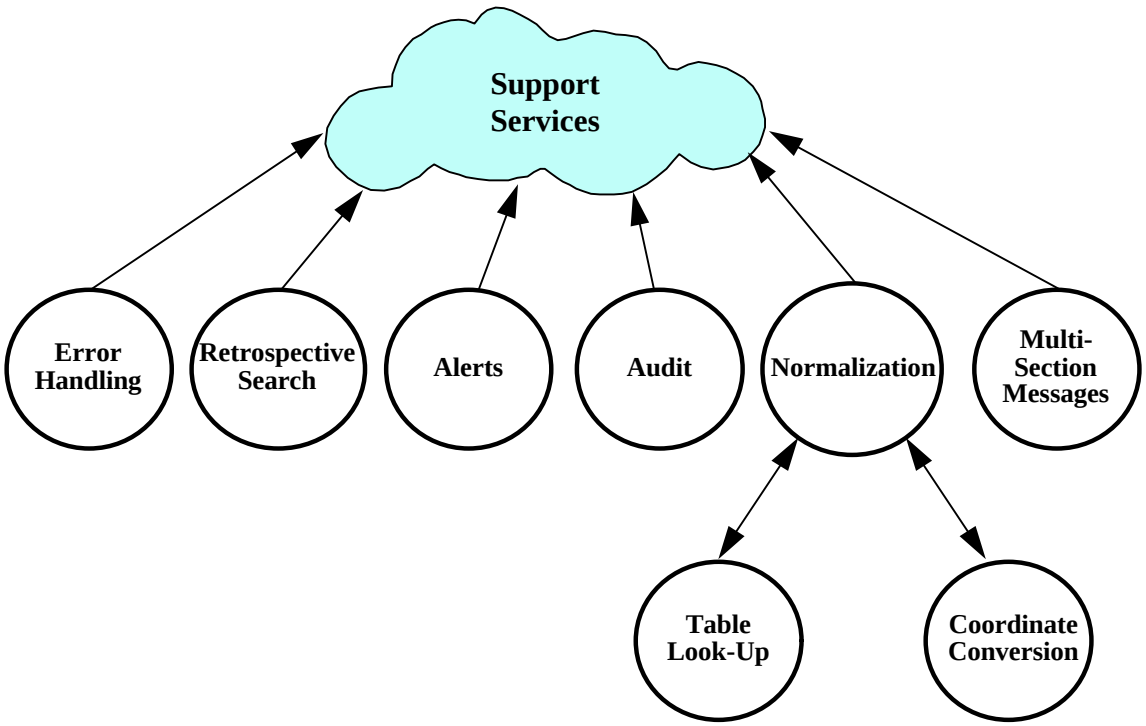

Figure 3. Message Processing Support Services

MP 3.2.3.1 System Configuration

System configuration, for the message processing module, concerns selection a routing table to be used for this session or message definition file (the system may have multiple message standard baselines loaded on the system but only one in use at any given time). At system start up the message processor will default to the configuration present when last terminated. The system administrator may change configuration items active at any time without adversely impacting other system resources and have the change implemented upon the next system call to the configuration item changed.

MP 3.2.3.1.1 Start-up

3.2.3.1.1.1 At start up, the message processor shall default to the configuration present at last termination

Traceability:
Priority ???

3.2.3.1.1.2 The system administrator shall be allowed to change configuration upon validation of the administrator's access rights

Traceability:
Priority ???

MP 3.2.3.1.2 Termination

The message processor shall save its current configuration at termination in order to be restarted.

Traceability:
Priority ???

MP 3.2.3.2 Error Handling

The message processor must be capable of accepting error conditions from internal and external sources. While error conditions will occur internally, failure of a message to pass validation checking, the message processor must also be capable of handling external errors, such as rejection of data passed by it to another module. One such source could be the communications module if the communications module failed to recognize a Plain Language Address (PLA) on a message passed to it. To enable error handling the message processor shall:

3.2.3.2.1 Provide for presentation of the error to a user for action

Traceability:
Priority ???

3.2.3.2.2 Provide the capability for an authorized operator to review (and override) the rejection of messages due to validation and/or verification errors.

Traceability:
Priority ???

3.2.3.2.3 Provide the capability to suspend the processing of messages received with validation and verification errors pending user review and correction.

Traceability:
Priority ???

3.2.3.2.4 Provide the capability for parser to resume processing of messages with errors after user review and correction.

Traceability:
Priority ???

3.2.3.2.5 Accept an error condition from the communications module when

a. the message contains errors

Traceability:
Priority ???

b. the message transmission is abnormally terminated

Traceability:
Priority ???

MP 3.2.3.3 Audit

The message processing module shall support audit requirements as specified in paragraph 3.8 and the Security Administration SRS.

MP 3.2.3.4 Retrospective Search

Users of the message processing module must have the capability to retrieve data from the operational journal. Retrieval is required to support message generation, such as changing a minimum amount of information in an existing message and transmit it as a new one, or the user needs to do some research prior to generating a message. In addition, the message processor shall:

3.2.3.4.1 Provide users the capability to search the message journal retrospectively for the messages of interest based on defined search criteria against the complete message and any annotations. The search criteria shall be definable using a SQL based language.

Traceability:
Priority ???

3.2.3.4.2 Provide processes the capability to search the message journal retrospectively for the messages of interest based on defined search criteria against the complete message and any annotations. The search criteria shall be definable using a SQL based language.

Traceability:
Priority ???

3.2.3.4.3 Provide the user the ability to enter search interactively via a user interface.

Traceability:
Priority ???

3.2.3.4.4 Provide the user the ability to enter delivery information interactively via a user interface.

Traceability:
Priority ???

3.2.3.4.5 Have no set limit on the maximum number of searches that can be run against a particular message.

Traceability:
Priority ???

3.2.3.4.6 Have no set limit on the maximum number of users or processes to which results of a search can be sent.

Traceability:
Priority ???

3.2.3.4.7 Support modification of an old message therefore creating a new message by

a. Retrieve and display a whole message

Traceability:
Priority ???

b. Editing of the displayed message, to include format lines

Traceability:
Priority ???

c. Replacement of existing addressees

Traceability:
Priority ???

d. Allow the revised message to be submitted as a new message

Traceability:
Priority ???

MP 3.2.3.5 Normalization

Normalization is the process by which data is transformed from one representation to a second form. In the case of normalization for an incoming message, data normalization is required to change the data representation of data in the message to one usable by the host system. Using this definition one can see a requirement to normalize data during message generation also. To support data normalization, the message processor shall:

3.2.3.5.1 Provide the capability to normalize the data in received messages to a form desired for use within the using system.

Traceability:
Priority ???

3.2.3.5.2 Normalize data from an inbound messages to a form required by the application system in real or near-real time via a normalization algorithm and/or alias tables.

Traceability:
Priority ???

3.2.3.5.3 Support coordinate conversion as provided by a coordinate conversion algorithm.
Traceability:
Priority ???

MP 3.2.3.6 BOM to COM Conversion

The message processing module is required to process Bit-Oriented-Messages (BOM) in addition to Character Oriented Messages (COM). To support this requirement the message processor shall:

3.2.3.6.1 Provide the ability to translate BOM messages to COM for continued processing, or
Traceability:
Priority ???

3.2.3.6.2 Provide the ability to parse BOM messages, or
Traceability:
Priority ???

3.2.3.6.3 Provide a path by which BOM messages may be passed directly to system resources for additional processing
Traceability:
Priority ???

MP 3.2.3.7 Message Data Tables

Message data tables shall be constructed automatically from the MTF CDBS. The message processor does not care what message standards are supported in the message data table as long as those proposed conform to the MTF CDBS scheme. Given that all information required by the CDBS is available, the message processor will contain all the information required to parse, generate, validate, and provide on-line help for messages processed by the module. The message processor shall:

3.2.3.7.1 Allow the message data tables to be dynamically modified by an authorized user to:
Traceability:
Priority ???

a. create new alias table entries
Traceability:
Priority ???

b. modify data field contents (extend valid entry/code list)
Traceability:
Priority ???

c. dynamic definition of database element definitions (e.g.; data normalization)
Traceability:
Priority ???

3.2.3.7.2 Provide the capability to update 100 percent of the supported messages from the CDBS.
Traceability:
Priority ???

MP 3.2.3.8 Message Validation

Validation occurs for both inbound and outbound message processing, the difference being that on inbound processing validation is optional and on outbound processing it is mandatory. Validation on inbound messages relies upon the user to determine the amount of validation, if any, to occur. If the user elects to

validate the messages and errors are detected further processing is inhibited until the error is resolved. For inbound validation the message processor shall:

3.2.3.8.1 Provide the capability to validate operational or exercise markings against the operational state.
Traceability:
Priority ???

3.2.3.8.2 Perform validation for those message formats outlined in 3.3.2.7
Traceability:
Priority ???

3.2.3.8.3 Validate for correct format, content and conditionally in accordance with approved format tables and data entry code lists for message format types outlined in 3.3.2.7
Traceability:
Priority ???

3.2.3.8.4 Route messages with detected validation errors to a user for interactive correction.
Traceability:
Priority ???

3.2.3.8.5 Provide the user with aides to correct message validation errors the system identifies.
Traceability:
Priority ???

3.2.3.8.6 Validate that all message mandatory sets/fields exist
Traceability:
Priority ???

3.2.3.8.7 Validate that mandatory set/field contain allowable values
Traceability:
Priority ???

3.2.3.8.8 Validate use of optional and conditional/fields sets
Traceability:
Priority ???

3.2.3.8.9 Validate that optional and conditional set/field contain allowable values
Traceability:
Priority ???

3.2.3.8.10 Determine that the set contains all mandatory fields.
Traceability:
Priority ???

3.2.3.8.11 Determine that the set contains no more than the specified maximum number of fields
Traceability:
Priority ???

3.2.3.8.12 Determine that the set sequence ordering conforms to the standard specification.
Traceability:
Priority ???

3.2.3.8.13 Determine that the segment ordering conforms to the standard specification.
Traceability:
Priority ???

3.2.3.8.14 Determine whether all special instructions specified in the standard are followed in the message.
Traceability:
Priority ???

3.2.3.8.16 Provide for a manual over-ride of identified validation errors for outbound messages
Traceability:
Priority ???

MP 3.2.3.9 Multi-Sectioned Messages

The message processor must be capable of supporting the communications module requirement that packets released to it for transmission conform to size limitations. Conformance is normally termed message segmentation. To support message segmentation the message processor shall provide the capability to section a message into segments, having a maximum length of 40,000 bytes per segment. Additionally, the message processor shall:

3.2.3.9.1 Create a single message from all sections of a multi-part message received in an operator setable time period.
Traceability:
Priority ???

3.2.3.9.2 Process an incomplete sectioned message at user direction.
Traceability:
Priority ???

3.2.3.9.3 Ensure that the message is displayed in section order regardless of whether sections are received out-of-sequence or are missing.
Traceability:
Priority ???

3.2.3.9.4 Place an indicator in the reconstituted message where portions of the message/message text are missing.
Traceability:
Priority ???

MP 3.2.3.10 Message Annotation

Message coordination, parsing, and retrospective search are possible processes requiring the user to attach comments to a message stored in the operational message journal. For sure, reviewers of a message will want to comment on the message preparation/content and/or attach a sign-off on messages prior to release. To support message annotation, the message processor shall:

3.2.3.10.1 Provide a mechanism whereby memorandums may be attached to a base record
Traceability:
Priority ???

3.2.3.10.2 Insure that attached comments are not released along with the base record
Traceability:
Priority ???

3.2.3.10.3 Place no limitation on the number of memorandums which may be attached to any one base record
Traceability:
Priority ???

MP 3.2.3.11 Message Retransmission

The message processing module must appropriately mark messages retrieved during retroactive search and reintroduced into a network/net for forwarding to another destination. An example of this could be generation and release of a unit status message where there is minor changes from day to day. The user

requires the ability to retrieve a previous message, modify it, and reintroduce the message into the system as a new message. Also, a higher unit may want to retransmit a message to a lower echelon, for information purpose, and only add that user as an address, virtually unchanging the original message. The message processing module shall:

3.2.3.11.1 Release messages with changes in the "TO" and/or "INFO" lines and no changes to text in a re-addressal format.

Traceability:
Priority ???

3.2.3.11.2 Release messages no changes to text as corrected copy (i.e. ZDK as ZZS is utilized when an error is made by the serving communications center).

Traceability:
Priority ???

3.2.3.11.3 Mark messages which have been retrieved from a storage area that have been acknowledged as delivered but are reintroduced with no changes as exact duplicates (ZFG).

Traceability:
Priority ???

3.2.3.11.4 Mark messages which have been retrieved from a storage area that have not been positively acknowledged for relay/delivery and are forward with no other changes as suspected duplicates (ZFD).

Traceability:
Priority ???

MP 3.2.3.12 Operational Journal

The message processor shall provide an area where both inbound and outbound messages are filed. Records placed in the operational journal will be accessible by authorized users for retrieval, annotation, and/or additional processing. The operational journal shall:

3.2.3.12.1 Provide the capability to generate/display directory of journal records

Traceability:
Priority ???

3.2.3.12.2 Provide the capability to log the following information from received and transmitted messages:

Traceability:
Priority ???

a. Date and time of message origination - Date Time Group (DTG)

Traceability:
Priority ???

b. Date and time the message was received

Traceability:
Priority ???

c. Subject/Message ID

Traceability:
Priority ???

d. Message originator

Traceability:
Priority ???

e. Message destination

Traceability:
Priority ???

f. Security classification (including codewords/nicknames and handling caveats)
Traceability:
Priority ???

g. Message identification and number.
Traceability:
Priority ???

3.2.3.12.3 Provide the capability to selectively log the following information from received and transmitted messages at the request of an application program:
Traceability:
Priority ???

a. Message sender
Traceability:
Priority ???

b. Message type
Traceability:
Priority ???

c. Message transmission status
Traceability:
Priority ???

3.2.3.12.4 Provide the capability to selectively retrieve the logged message information.
Traceability:
Priority ???

3.2.3.12.5 Provide the capability to maintain the status of all messages under coordination and release review.
Traceability:
Priority ???

3.2.3.12.6 Provide the capability for members on the message coordination and release list to access the status of all messages under coordination.
Traceability:
Priority ???

3.2.3.12.7 Provide the capability to store the contents of the receive queue for subsequent retrieval in the event of a W/S re-initialization.
Traceability:
Priority ???

3.2.3.12.8 Provide the capability to store selected messages on-line for quick access. Storage parameters shall include the message profile (i.e., type, originator, precedence) and specified time period (i.e., for 1, 2, 6, 12, 24, and 48 hours).
Traceability:
Priority ???

3.2.3.12.9 Provide the capability to search the message storage for messages of interest based upon a user-defined set of search criteria.
Traceability:
Priority ???

3.2.3.12.10 Provide the capability to define message storage space capacity and threshold depletion limits.

Traceability:
Priority ???

3.2.3.12.11 Provide the capability to monitor message storage space for depletion.

Traceability:
Priority ???

3.2.3.12.12 Provide the capability to route messages to an alternate, selectable, device when the message storage area limits are reached.

Traceability:
Priority ???

3.2.3.12.13 Provide the capability to disable the acceptance of incoming non-ECP and non-Flash messages when primary storage devices are full

Traceability:
Priority ???

3.2.3.12.14 Provide the capability to delete the oldest messages having the same or lower precedence as the incoming message in order to make room when the message storage area is full and acceptance of incoming messages is not disabled.

Traceability:
Priority ???

3.2.3.12.15 Provide the capability to enable the acceptance (for storage) of incoming messages according to message precedence.

Traceability:
Priority ???

3.2.3.12.16 Provide the capability for an application program to delete selected messages from the message storage area.

Traceability:
Priority ???

MP 3.2.3.13 Performance Requirements

3.2.3.13.1 For UNIX based systems, the message processing module shall meet the performance goals specified below:

Traceability:
Priority ???

3.2.3.13.1a The message processing module should meet user responsiveness times as specified in Table 1.

Traceability:
Priority ???

Function	Criteria
From the time that the user orders its formulation, display or make available for display by scrolling or paging the first page of a summary display.	50% in 1.5 sec 95% in 2.0 sec 100% in 2.5 sec
In response to a command for a general database search, assemble, order, and format a summary display from the message database and transfer and display the first page.	50% in 3.0 sec 95% in 4.0 sec 100% in 5.0 sec
Reorder a summary display, such as rearranging the sequence, adding or deleting message summary fields, or producing a display containing a subset of the original display.	50% in 1.0 sec 95% in 2.0 sec 100% in 2.5 sec

Retrieve and display the first page of a message stored in the system database in response to user interaction with the associated message summary display.	50% in 1.5 sec 95% in 2.0 sec 100% in 2.5 sec
Display the first page of a message stored off-line after acknowledgment that off-line media must be transferred to an on-line device.	10 min
Make available for display, by scrolling or paging, the next or preceding page of an object, after the current page has been viewed for one second.	1.0 sec
Scroll rate.	20 lines/sec
Error feedback following completion of an input.	3.0 sec
Response to simple command (e.g., delete message).	1.0 sec
Response to complex command (e.g., advise a user that a requested message has been archived).	4.0 sec

Table 1. User Responsiveness Performance Criteria

3.2.3.13.1b The message processing module should meet message in-processing times as specified in Table 2.

Traceability:
Priority ???

Precedence	Time (Sec)
95% of ECP messages	10
100% of ECP messages	30
95% of Flash messages	15
100% of Flash messages	60
95% of Immediate messages	30
100% of Immediate messages	120
95% of Priority messages	60
100% of Priority messages	240
95% of Routine messages	120
100% of Routine messages	500

Table 2. In-Processing Performance Requirements

3.2.3.13.1c The message processing module should meet message out-processing times as specified in Table 3.

Traceability:
Priority ???

Precedence	Time (Sec)
95% of CRITIC messages	10
100% of CRITIC messages	30
95% of ECP messages	10
100% of ECP messages	30
95% of Flash messages	20
100% of Flash messages	60
95% of Immediate messages	60
100% of Immediate messages	240
95% of Priority messages	120
100% of Priority messages	500
95% of Routine messages	360
100% of Routine messages	1000

Table 3. Out-Processing Performance Requirements

3.2.3.13.2 For Windows/DOS based systems, the message processing module shall meet the performance goals of TBD.

Traceability:
Priority ???

MP 3.2.4 Requirements Submitted by the Army

3.2.4.1 The Operational Message Journal (OMJ) shall provide the capability to receive from the CMP the following formatted and validated message types:

1. DOI-103

   Traceability: ARMY, 20 July 1996
   Priority ???

2. DOI-103M

   Traceability: ARMY, 20 July 1996
   Priority ???

3. JANAP-128

   Traceability: ARMY, 20 July 1996
   Priority ???

4. DD-173

   Traceability: ARMY, 20 July 1996
   Priority ???

3.2.4.2 The Operational Message Journal (OMJ) shall provide the capability to store the following formatted and validated message types:

1. DOI-103

   Traceability: ARMY, 20 July 1996
   Priority ???

2. DOI-103M

   Traceability: ARMY, 20 July 1996
   Priority ???

3. JANAP-128

   Traceability: ARMY, 20 July 1996
   Priority ???

4. DD-173

   Traceability: ARMY, 20 July 1996
   Priority ???

3.2.4.3 An Operational Message Journal Access (OMJA) capability shall be provided to allow an analyst to selectively read messages stored in the Operational Message Journal.

Traceability: ARMY, 20 July 1996
Priority ???

3.2.4.4 The Operational Message Journal (OMJ) shall provide the capability to update the Operational Message Journal's supplemental data upon receipt of a command from the CMP.

Traceability: ARMY, 20 July 1996
Priority ???